Activation of G(s) by the Glucagon-like peptide-1 receptor (Glp1r, rat)

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

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Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics, 33*, 3461-3467. ↗

Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res, 46*, D649-D655. ↗

Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology, 14*, e1005968. ↗
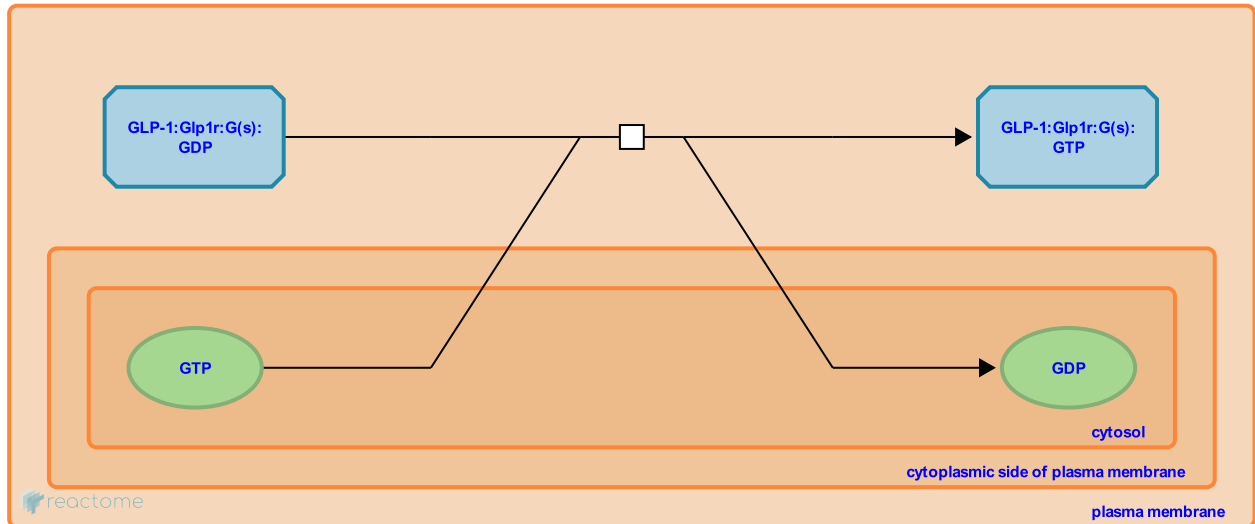
Reactome database release: 77

This document contains 1 reaction (see Table of Contents)

Activation of G(s) by the Glucagon-like peptide-1 receptor (Glp1r, rat) ↗

Stable identifier: R-RNO-446954

Type: transition

Compartments: plasma membrane, cytosol, extracellular region

Binding of Glucagon-like peptide-1 to the Glucagon-like peptide-1 receptor causes the associated G(s) G-protein alpha subunit to exchange GDP for GTP, thereby activating G(s).

Literature references

Hällbrink, M., Holmqvist, T., Olsson, M., Ostenson, CG., Efendic, S., Langel, U. (2001). Different domains in the third intracellular loop of the GLP-1 receptor are responsible for Galpha(s) and Galpha(i)/Galpha(o) activation. *Biochim Biophys Acta, 1546*, 79-86. ↗

Montrose-Rafizadeh, C., Avdonin, P., Garant, MJ., Rodgers, BD., Kole, S., Yang, H. et al. (1999). Pancreatic glucagon-like peptide-1 receptor couples to multiple G proteins and activates mitogen-activated protein kinase pathways in Chinese hamster ovary cells. *Endocrinology, 140*, 1132-40. ↗

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Editions

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